

Comment Letter FTR/CT

FTR/CT

Friends of Trinity River
California Trout, Inc.
P. O. Box 2327
Mill Valley, CA 94942-2327
415 383 4810

FEB 07 2006 00142

February 6, 2006

Via Email and FedEx

Mr. Paul A. Marshall
Department of Water Resources
South Delta Branch, Draft EIS/EIR Comments
1416 9th Street, 2nd Floor
Sacramento, CA 95814

Re: Comments on the South Delta Improvement Program, Draft Environmental Impact Statement/Environmental Impact Report

Dear Mr. Marshall:

Friends of Trinity River and California Trout, Inc., submit the following comments on the South Delta Improvement Program (SDIP) Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR) of November 2005 by the California Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (BOR).

The Draft Environmental Impact Statement/ Report should be Withdrawn.

The SDIP DEIS/EIR should be withdrawn. The document is not in compliance with the requirements of the National Environmental Policy Act (NEPA). Alternatives are limited to promote the South Delta Improvement Program (SDIP) and do not represent a full range of objective alternatives. The DEIS/EIR does not fully disclose environmental impacts and promotes irresponsible management of an environmentally significant resource. The DEIS/EIR is based upon a Biological Opinion (BO) that has been found to be seriously deficient on many issues by an independent review of highly regarded scientists. The DEIS/EIR is a premature assumption since it is not known now if additional water needs to be delivered south of the Delta. In fact, much less water may need to be delivered south of the Delta. Further, the Record of Decision is not completed for the San Luis Feature Re-evaluation (SLFRE) EIS that proposes to retire a large area of land.

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New SDIP DEIS/EIR should not be Initiated until Additional Information/Action is Undertaken and Completed.

Determination of the cause(s) of the collapse of Delta fisheries must be determined and

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corrective action completed before development of a new DEIS/EIR is initiated.

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Impacts from proposed renewal of Long-Term Water Service Contract Renewals in the San Luis Unit (SLU) and the SFLRE are inextricably intertwined with impacts of the proposed SDIP. Each of these three initiatives creates impacts upon the others that have not been evaluated. This is because there has been no communication between developers/authors of each document or coordination among them in the development of legally sufficient environmental documentation evaluating impacts emanating from these three interrelated proposals.

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Development of a new legally adequate DEIS/EIR must be held in abeyance until the above actions are undertaken and completed. Communication/coordination must be established among the three developers/authors before work on new environmental documentation is started to evaluate inter-related impacts not now susceptible to evaluation in accordance with the NEPA.

To cite merely one example, while the SLDFR/DEIS proposes as one alternative retirement of significant amounts of land in the SLU, the Long Term Contract Renewal DEIS does not evaluate the impact of reduced water deliveries arising from land retirement. Some land in SLU already has been retired.

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The SLDFR/DEIS suggests land retirement of 44,106 acres under the No Action Alternative, 92,592 acres under In valley/ground water quality Land Retirement Alternative, 193,956 acres under In valley/water needs Land Retirement Alternative, and 308,000 acres under In valley/ Drainage Impaired Land Retirement Alternative. In fact, Westlands Water District alone is interested in retiring as much as 200,000 acres. Reduced water deliveries are not considered either in the subject DEIS/EIR or the SLU/DEIS. Reduced water deliveries would significantly affect impacts not evaluated in this DEIS/EIR and ultimate decision making on alternatives.

Beyond Westlands' land retirement, much more land south of the Delta, 376,751 acres as a minimum, should be retired. This is set forth in a Table 1 below. As much as 604,000 acres requires retirement, as reflected in Table 2.

An Alternative that Reduces Exports from the Delta is not Considered.

As required by NEPA standards, all reasonable alternatives must be considered and evaluated. Reducing exports from the Delta is a reasonable alternative that should be considered in the DEIS/EIR to ensure a valid and credible EIS/EIR. To exclude an

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alternative that reduces exports is a critical flaw in the DEIS/EIR. In October, the California Third District Court of Appeals set aside the CALFED Record of Decision because, among other things, the PEIS for CALFED did not consider an alternative which **reduces** exports from the Delta. This judicial decision should guide alternative development in this DEIS/EIR.

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The DEIS/EIR also fails to acknowledge many other options to meet unmet water supply needs south of the Delta other than increased pumping of water from the Delta. Land retirement of drainage-impaired agriculture lands is one option that could free up more than a million acre-feet of water a year. Water conservation, groundwater management and reclamation are other methods not being utilized to their full potential. The California State Water Plan indicates that if water conservation and reclamation were fully invested, demand for water would decrease and would eliminate any need for increased Delta exports.

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The DEIS/EIR is Premature.

DWR and BOR are making a grand assumption that increased pumping and exports are needed for water users south of the Delta. As indicated above, the DEIS/EIR fails to evaluate the connection with SLD/EIS proposed alternatives to retire large tracts of land in the Central Valley which would reduce water needs south of the Delta.

Trinity County has developed a Land Retirement Plan that proposes a solution to water deficits and a manageable way to reduce exports.

A revised DEIS/EIR should expand upon Appendix A of the Trinity River Fishery Restoration Supplemental EIR (shown below revised as Table 1). Table 1 portrays a rough estimate of the potential water savings associated with the retirement of lands within the San Luis Unit, Delta-Mendota Canal Unit and the San Joaquin River Exchange Contractors of the Central Valley Project (CVP) that are expected to require drainage service.

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The purpose of this analysis is to estimate an amount of CVP water that could be obtained from retirement of drainage-impacted lands in these three units of the CVP. The water savings then would be dedicated to increase Trinity Lake storage to offset instream fishery flows as prescribed in the Trinity River Record of Decision (Trinity ROD). The reduction in project use power needs also would reduce power demands to help mitigate impacts to CVP power customers from loss of generation from implementing the Trinity ROD.

The total land with drainage problems is 376,751 acres in the water districts identified below in Table 1, but other problem areas also exist outside of the SLU and DMC areas, as identified in Table 2 below.

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The analysis below shows that land retirement could save 793,056 acre feet of water (AF) in total CVP contracted water, which would have been an actual reduction in demand of 568,373 AF in 2002, the same year as the unprecedented Klamath Fish Kill. Permanent land retirement and dedication of water to other CVP project purposes would result in significant benefits from reduced pollution from drainage water, reduced CVP project power usage, increased ability to meet various water quality standards, increased water storage, increased M&I water supplies, and more water for environmental needs such as Trinity River fishery flows and wildlife refuges. **Land retirement could also be the basis for an alternative which reduces exports from the Delta, per the Third District Court of Appeals decision on the CALFED PEIR.**

Table 1 from the Draft Trinity River Fishery Restoration Supplemental Environmental Impact Report (Trinity County 2004, as amended 1/24/05 and 2/16/05)

	Acres	Acres Requiring Drainage Service	% of District Requiring Drainage Service	Max CVP Contract Amount (AF)	Max CVP Contract Water Savings (AF)	2002 CVP Contract Deliveries (AF)	2002 CVP Water Savings (AF)
Broadview Water District	9,515	9,515	100.00%	27,000	27,000	18,588	18,588
Panoche Water District	39,292	27,000	68.72%	94,000	64,593	66,743	45,863
Westlands Water District	604,000	298,000	49.34%	1,154,198	569,455	776,631	383,172
Eagle Field	1,438	1,435	99.82%	4,550	4,542	2,869	2,864
Mercy Springs	3,589	2,417	67.35%	2,842	1,914	4,679	3,151
Oro Loma	1,095	1,095	100%	4,600	4,600	3,173	3,173
Widren	881	881	100%	2,990	2,990	2,094	2,094
Firebaugh	23,457	23,457	100%	85,000	85,000	85,000	85,000
Cent. Cal ID	149,825	4,951	3.30%	532,400	17,569	532,400	17,569
Charleston Drainage District (portion of San Luis WD with	4,314	3,000	69.54%	8,130	5,654	Not avail	Not avail

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drainage problems)							
Pacheco Water District	5,175	5,000	96.62%	10,080	9,739	7,137	6,896
Total	842,581	376,751	NA	1,925,790	793,056	1,499,314	568,370

Table 1 above was derived by obtaining acreage information for each district through Chris Eacock at the Bureau of Reclamation (USBR) in Fresno. The number of acres requiring drainage by 2050 was taken from estimates in the San Luis Drainage Feature Evaluation, Plan Formulation Report, USBR, December 2002 (pages 2-5 and 2-6). The maximum water savings associated with the retirement of these lands was calculated by multiplying the maximum contract amounts for each district by the percent of that district requiring drainage. Contract amounts were taken from a list of CVP contracts provided by Reclamation. Each district's total contract amount was calculated by adding all of its water contracts if more than one contract exists.

According to information developed by the Environmental Working Group, water and crop subsidies to Westlands in 2002 amounted to more than \$100 million. If approximately half of Westlands, as well as those impacted lands in other drainage-problem districts such as Broadview, Widren, Mercy Springs, Panoche, Pacheco and others were retired, it would free up hundreds of thousands of acre-feet of water, as well as significantly reduce water and crop subsidies by tens of millions of dollars a year. Full analysis of such an alternative would provide meaningful disclosure to decision makers and the public about the true costs of delivering water to these problem lands.

Table 2

	Total Irrigated croplands in 2002(acres)	Drainage Impaired acreage in 2000 (acres)	% of County Requiring Drainage Service	Estimated Contract Amounts (AF)	Estimated Water Savings (AF)
Tulare County	652,385	291,000	44.60%	1,304,770	581,927
Kern County	811,672	313,000	38.56%	1,623,344	625,961
Total	1,464,057	604,000	N/A	2,928,114	1,207,888

Table 2 above portrays a very preliminary estimate of water savings in Tulare and Kern County within the SWP service area. The acres of irrigated croplands was taken from the USDA farm census statistics report in 2002. The acreage of drainage impaired acres is derived from a report by CA Dept of Water Resources, the 2000 San Joaquin Valley Drainage Monitoring Program. The acreages identified are for lands with high groundwater within 20 feet of the surface. The contract amounts were calculated by

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estimating 2 acre-feet per acre irrigated, most likely an underestimated amount. Further investigation is needed to verify and to refine these numbers, but clearly there is adequate justification to remove these lands from irrigation due to continuing drainage problems and salinization of land, in violation of Water Code Section 100 - Wasteful and Unreasonable Use of Water.

Environmental Impacts are not Adequately Analyzed

Although the DEIS/EIR claims that SDIP is being pursued to address the needs of the aquatic environment, it appears its main focus is to increase pumping and exports south and to ignore the negative consequences this action will have upon the aquatic environment it is attempting to protect. Greater detail and consideration should be evaluated on environmental impacts. There is a significant amount of environmentally sensitive species and habitats that will be impacted from this project and the mitigation measures to address these impacts are not defined in sufficient detail to meet the basic questions of how and when, or to satisfy NEPA requirements.

FTR/CT-10

It is irresponsible to claim that the "unexpected declines in pelagic fish populations cannot be explained by relationships that have been developed in the past among environmental conditions such as Delta flow export rates and fish population." This statement is used to validate this project and to avoid and to overlook negative consequences. Decades of studies have linked water project operations to the decline of the estuary's fish. To deny this research allows this project to go forward without concern for the physical environment.

FTR/CT-11

Long Term CVP OCAP BO is Inadequate

The DEIS/EIR is based upon the "Biological Opinion (BO) in the Long-Term Central Valley Project (CVP) and State Water Project (SWP) Operations Criteria and Plan (OCAP)", which has been found faulty and totally unsupported by an independent technical review team composed of highly regarded scientists convened by the CALFED Bay-Delta Program. Its findings were made public January 3, 2006.

FTR/CT-12

A report by the Department of Commerce's Inspector General also found the BO process violated government procedures and did not use the best available science to develop its conclusions. Examples of problems with the BO are that the temperature criteria is inconsistent with the best available standards, there is inadequate accounting for fluctuating ocean conditions that effect ecosystem survival, too little attention is devoted to effects of future global climate change, and the use of questionable calculations.

Inadequate Impact Analysis for Trinity County- A County of Origin for the CVP

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The DEIS/EIR contains unsubstantiated findings about the lack of impacts to Trinity River fisheries. The Stage 2 analysis of Trinity River fisheries only includes an analysis of coho salmon, but does not analyze impacts upon fall and spring chinook, winter and summer steelhead, lamprey and sturgeon. In particular, the statement on page 6.1-87 that "*The effects on coho salmon are representative of the potential effects on Chinook salmon and steelhead*" grossly ignores the life history of all species in the Trinity River. Adult coho salmon generally migrate and spawn when temperature isn't an issue (late fall/winter), while spring chinook, fall chinook and summer steelhead spawn, migrate and hold during periods when temperatures can be lethal (summer/early fall).

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The DEIS/EIR fails to recognize the importance of steelhead and chinook in sport, tribal and commercial harvest interests, and it fails to identify that lesser Trinity Lake carryover storage will have a negative impact upon the survival of Trinity River fisheries. It tries to make the case that increased exports from the Trinity River to the Sacramento River will reduce Trinity River temperatures, but the DEIS/EIR completely ignores the issue of cold water reserves to ensure that adequate fish survival temperatures can be achieved.

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Specifically, the DEIS/EIR should analyze whether or not the project will meet water quality objectives for the Trinity River adopted by the North Coast Regional Water Quality Control Board, the State Water Resources Control Board and U.S. Environmental Protection Agency as follows:

FTR/CT-15

NCRWQCB Temperature Objectives for the Trinity River

Temperature Not to Exceed; Time Period; River Reach

60°F (15.6°C); July 1-September 14; Lewiston Dam to Douglas City Bridge

56°F (13.3°C); September 15-October 1; Lewiston Dam to Douglas City Bridge

56°F (13.3°C); October 1-December 31; Lewiston Dam to confluence with North Fork

Trinity River water quality also explicitly is protected by Water Right Orders 90-05 and 91-01. These orders state that exports from the Trinity River Division of the CVP to the Central Valley for Sacramento River temperature control shall not harm Trinity River fisheries, as measured by compliance with specific temperature requirements in the Trinity River. The temperature requirements contained in Water Right Orders 90-05 and 91-01 for the Trinity River are 56°F (13.3°C) and 56°F (15.6°C) at Douglas City and the North Fork confluence, respectively, as shown in the table above. The 60°F summer objective at Douglas City is not a requirement of Water Right Orders 90-05 and 91-01.

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The DEIS/R should be revised to include a full analysis of impacts to Trinity River temperatures and consistency with State, federal and Tribal water quality standards and objectives.

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Approval of the SDIP and implementation of the Joint Point of Diversion whereby the CVP can send its "surplus" water south of the Delta using SWP pumping capacity will result in depleted cold water reserves in Trinity Lake at the beginning of the next multi-year drought. Since the reservoirs on the Klamath River upstream of the Trinity River confluence are shallow, nutrient-rich and warm, this will leave absolutely no safeguards for protection of the Lower Klamath River's fisheries. This includes coho salmon, a state and federal listed species, as well as steelhead, spring and fall chinook, lamprey and green sturgeon. These species support a broad range of tribal, commercial and sport fisheries, and communities in the North Coast Region and southern Oregon.

FTR/CT-17

The DEIS/EIR should be revised to include a full analysis of impacts to all Trinity River fisheries, and an honest assessment of the environmental and economic impacts of reduced carryover storage and recreation in Trinity Lake, on the Trinity River, but also on the Lower Klamath River's fisheries.

Conclusion

The SDIP EIS/EIR should be withdrawn and revised to include a complete range of alternatives including an alternative that reduces exports from the Delta. This should not be undertaken until all of the coordination/inter-related impact issues set forth above have been completed.

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The SDIP does little or nothing either to improve Delta water quality or to protect the fragile ecosystems surrounding the Delta. The DEIS also should analyze extensively and disclose fully environmental impacts using the best available science before moving forward with any aspect of this project.

FTR/CT-19

The consequences to Areas of Origin should be revised and assessed. DWR and BOR are agencies responsible for making sustainable policy decisions that conserve and protect the State's limited water resources. This DEIS/EIR does not fulfill this responsibility.

FTR/CT-20

Finally, a 30 day extension of the comment period is suggested as this document is very extensive and technical and a longer time period is needed to complete a full and proper review.

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Thank you for the opportunity to comment on this document.

Yours very truly,

Friends of Trinity River

California Trout, Inc.

By: s/ Byron W. Leydecker, Chair

By: s/ Brian Stranko, Executive Director

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cc: The Honorable Dianne Feinstein
The Honorable Barbara Boxer
The Honorable George Miller
The Honorable Mike Thompson
The Honorable Arnold Schwarzenegger
Mr. Kirk Rodgers
Mr. Steve Thompson
Secretary Michael Chrisman
Mr. Lester A. Snow

Responses to Comments

FTR/CT-1

Please see Master Response D, *Developing and Screening Alternatives Considered in the South Delta Improvements Program Draft EIS/EIR*.

FTR/CT-2

Please see Master Response A, *Relationship between the South Delta Improvements Program and the Operations Criteria and Plan*.

FTR/CT-3

The SDIP Draft EIS/EIR represents the next most likely CALFED project. This project is needed, and is not premature. Chapter 1 of the Draft EIS/EIR provides an overview of the water supply needs.

FTR/CT-4

Please see Master Response B, *Relationship between the South Delta Improvements Program and the Pelagic Organism Decline*.

FTR/CT-5

Other projects likely to have similar impacts are described in Chapter 10 of the SDIP Draft EIS/EIR. Projects that retire land will reduce the demand for water in some districts and also reduce the source of high salinity drainage water. A San Luis Drainage project will further reduce the drainage of high salinity water to the San Joaquin River. The SDIP will not conflict with any of these future benefits. Please also see Master Response Q, *Effects of the South Delta Improvements Program on San Joaquin River Flow and Salinity*.

FTR/CT-6

SDIP does not propose to retire any land as part of this project. Land retirement and reduced long-term contracts could change federal water contractors' demands in some year types. However, many federal water contractors are not delivered full demands and any water freed up by land retirement would likely close the gap between demand and delivery. Likewise, any additional deliveries

made possible by SDIP Stage 2 alternatives would likely close the gap between demand volumes and delivery volumes.

FTR/CT-7 and FTR/CT-8

Please see Master Response D, *Developing and Screening Alternatives Considered in the South Delta Improvements Program Draft EIS/EIR*.

FTR/CT-9

Please see response to comment FTR/CT-6.

FTR/CT-10

Please see Master Response E, *Reliance on Expanded Environmental Water Account Actions for Fish Entrainment Reduction*. Table 4-1 of the SDIP Draft EIS/EIR provides a summary of each mitigation measure. Reclamation and DWR believe the mitigation measures will reduce significant impacts to a less-than-significant level. A mitigation monitoring and reporting plan that will incorporate all the measures described in the Draft EIS/EIR will be developed prior to DWR approving the project and Reclamation completing the ROD for the project.

FTR/CT-11

Please see Master Response B, *Relationship between the South Delta Improvements Program and the Pelagic Organism Decline*.

FTR/CT-12

Please see Master Response A, *Relationship between the South Delta Improvements Program and the Operations Criteria and Plan*.

FTR/CT-13 through FTR/CT-17

Please see Master Response N, *Trinity River Operations*.

FTR/CT-18

Please see Master Response D, *Developing and Screening Alternatives Considered in the South Delta Improvements Program Draft EIS/EIR*.

FTR/CT-19

SDIP Draft EIS/EIR Sections 5.3, Water Quality, and 6.1, Fish, fully disclose the methods and assumptions used to evaluate potential water quality and ecosystem impacts from the SDIP alternatives. Information about the effects of the permanent gates cannot be improved without constructing and operating them (using the combination of monitoring and adaptive management) to maximize benefits to Delta resources. All available information will be used for the Stage 2 CEQA and NEPA compliance.

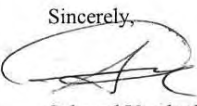
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SDIP will have no effects on upstream water rights or area of origin access to full water supplies.

FTR/CT-21

Please see Master Response C, *Extension of the Comment Period on the South Delta Improvements Program Draft EIS/EIR*.

Comment Letter MPC

MPC	MILK PRODUCERS COUNCIL MPC <i>"Serving the Dairy Industry for Over 50 Years"</i> DEC 22 2005 00021 L. Snow J. Johns
Sybrand Vander Dussen <i>President</i>	December 2, 2005 Mr. Lester Snow Director Department of Water Resources State of California Sacramento, CA 95814
Fred Douma <i>Vice President</i>	RE: Support for the South Delta Improvements Program
Geoffrey Vanden Heuvel <i>Vice President</i>	Dear Director Snow,
Maynard Troost <i>Vice President</i>	On behalf of Milk Producers Council, a non-profit dairy trade organization, I am writing to express our support for the Department of Water Resources' (DWR) South Delta Improvements Program (SDIP). We believe that the SDIP will better utilize our existing water resources and infrastructure, which will help address and balance the water needs of our agricultural community, urban population and large economy. Collectively, it will improve our state's water supply reliability, water quality and the overall health of the Bay-Delta ecosystem. The program will construct seasonal tidal gates to protect fish, and improve water circulation and quality in the Delta, dredge select Delta channels to improve water deliveries for local farmers, and allow State Water Project deliveries to increase modestly.
David Albers <i>Secretary</i>	Currently, the state is constrained in its ability to use surplus water supplies. We have the infrastructure to move the water, but until SDIP is approved, the state's water managers cannot fully or responsibly use the existing system. SDIP calls for only a 3-5% increase in the average amount of water pumped from the Delta. More significantly, SDIP will provide the flexibility to shift the timing of water deliveries when surplus is available and when environmentally safe to do so. SDIP will not require building a new project or the construction of major new infrastructure, and funding for the program has already been secured through passage of voter-approved bonds in 2000 (Proposition 13).
Dick Dykstra <i>Treasurer</i>	Water is critical not only to the health of the families, farms, and businesses we represent but also to the entire state of California. Therefore, it is imperative that we have a more flexible water delivery system so that the state can continue to accommodate agriculture and the growth in our population and economy while relying on existing water supplies.
Amos De Groot Dick Jorritsma Daryl Koops Art Marquez B.J. Schoneveld Brad Scott Ben Slegers Mark Stiefel Hank Vander Poel Pete Vander Poel Pete Vander Poel, Jr.	Again, we strongly support SDIP and encourage all key stakeholders to help advance this critically needed project.
<i>Staff</i>	Thank you.
Nathan de Boom <i>Executive Director</i>	Sincerely,
David Albers <i>Legal Counsel</i>	
John Huitsing <i>Controller</i>	Sybrand Vander Dussen President
Deborah Clark <i>Administrative Assistant</i>	cc: Ms. Anne Newton, Red Gate Communication, Inc.

Responses to Comments

MPC-1

The commenter's description of the project's benefits and support for the project are noted.

Comment Letter NWF



NATIONAL WILDLIFE FEDERATION®

People and Nature: Our Future Is in the Balance

Western Natural Resource Center

NWF

February 7, 2006

Mr. Paul Marshall
SDIP EIS/EIR Comments
State of California Department of Water Resources
1416 9th Street
Sacramento, CA 95814

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RE: Comments on the South Delta Improvements Program Draft Environmental Impact Statement/Environmental Impact Report released on November 10, 2005 by the California Department of Water Resources (DWR).

Dear Mr. Marshall:

The National Wildlife Federation (NWF) appreciates the opportunity to provide comments on the recently-released *South Delta Improvements Program Draft Environmental Impact Statement/Environmental Impact Report* (SDIP EIS/EIR).

NWF recognizes the critical need for improvements in the management of the South Delta region's water resources given the continuing problems associated with agricultural, industrial and urban activities that are placing strain on water availability, diminishing water quality and jeopardizing the health of habitats critical to the region's fish and wildlife. However, in light of our review of this draft, NWF believes that the EIS/EIR, as currently stated, does not adequately reflect the likely impacts of the SDIP on vulnerable fish and wildlife populations and the future needs of the region's people.

Specifically, NWF is deeply concerned about the failure of the EIS/EIR to incorporate the anticipated impacts on California's water resources and water quality due to global climate change. Of greatest concern is the fact that DWR largely bases its projections for future water availability on the flawed assumption that environmental conditions in California have been static and will continue to be static in the future. This assumption is surprising given the fact that California's government agencies – including DWR – have recognized global climate change as a serious threat to the state's water resources. In its *Draft California Water Plan Update 2005*, DWR states specifically that:

"As a result of global climate change, California's future hydrologic conditions will likely be different from patterns observed in the past century. Predictions include increased temperatures, reductions in Sierra snowpack, earlier snowmelt, and a rise in sea level, although the extent and timing of the changes remain uncertain. These changes could have major implications for water supply, flood management, and ecosystem health" (Volume 1, page 4-32).

NWF-1



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Moreover, DWR acknowledges that, despite some inherent uncertainties, there is sufficient scientific evidence indicating a strong likelihood that a reduction in average snow cover and a decline in snowpack in much of the region due to global climate change will adversely affect water resources before the end of this century. For example, DWR states that, "In the Sacramento River region, only about one fourth of the snow zone would remain with an estimated decrease of nearly 3 million acre-feet of April through July runoff" (Volume 4, page 4-617). This is significant given that, for much of the region, snowpack is the most-significant source of water for the summer dry season.

NWF-2

There are numerous other scientific reports studying the effects that global climate change is having on California's water resources¹. One of the primary conclusions of many of these studies

¹ Intergovernmental Panel on Climate Change 2001; Summary for Policymakers
http://www.grida.no/climate/ipcc_tar/wg1/008.htm
The Effects of Climate Change on Water Resources in the West: Introduction and Overview
pp. 1-11 Tim Barnett, Robert Malone, William Pennell, Detlef Stammer, Bert Semtner, Warren Washington
Draft of paper: http://cirrus.ucsd.edu/~pierce/crd/globalwarming/ACPI-ClimateChange_12-12-02.pdf
Mid-Century Ensemble Regional Climate Change Scenarios for the Western United States
pp. 75-113 L. Ruby Leung, Yun Qian, Xindi Bian, Warren M. Washington, Jongil Han, John O. Roads
http://www.pnl.gov/atmos_sciences/Lr/Leung-3.pdf
Changes in Snowmelt Runoff Timing in Western North America under a 'Business as Usual' Climate Change Scenario pp. 217-232 Iris T. Stewart, Daniel R. Cayan, Michael D. Dettinger
http://tenaya.ucsd.edu/~dettinger/stewart_acpi.pdf
Mitigating the Effects of Climate Change on the Water Resources of the Columbia River Basin
pp. 233-256 Jeffrey T. Payne, Andrew W. Wood, Alan F. Hamlet, Richard N. Palmer, Dennis P. Lettenmaier
http://www.tag.washington.edu/publications/papers/payne_CC_final_080503.pdf
Potential Implications of PCM Climate Change Scenarios for Sacramento-San Joaquin River Basin Hydrology and Water Resources, pp. 257-281 Nathan T. VanRheenen, Andrew W. Wood, Richard N. Palmer, Dennis P. Lettenmaier
<http://www.tag.washington.edu/publications/papers/VanRheenen-et-al.2004.ClimChg.62.257-281.pdf>
Simulated Hydrologic Responses to Climate Variations and Change in the Merced, Carson, and American River Basins, Sierra Nevada, California, 1900-2099, pp. 283-317 Michael D. Dettinger, Daniel R. Cayan, Mary K. Meyer, Anne E. Jeton
http://tenaya.ucsd.edu/~dettinger/sierra_change.pdf
http://sfbay.wr.usgs.gov/access/bibliography/pdf/dettinger_2004_climate_change.pdf
Elevational Dependence of Projected Hydrologic Changes in the San Francisco Estuary and Watershed, pp. 319-336 Noah Knowles, Daniel R. Cayan
http://sfbay.wr.usgs.gov/access/bibliography/pdf/knownles_2004_sf_estuary.pdf
The Effects of Climate Change on the Hydrology and Water Resources of the Colorado River Basin, pp. 337-363 Niklas S. Christensen, Andrew W. Wood, Nathalie Voisin, Dennis P. Lettenmaier, Richard N. Palmer
Draft of paper: http://www.hydro.washington.edu/Lettenmaier/Publications/ACPI/Christenson_CC_final_0801.pdf
http://ftp.hydro.washington.edu/pub/niklas/paper_scp26_2.pdf
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is that loss of snowpack will likely mean earlier peak spring runoff, lower early-summer reservoir levels and lower summer streamflows, placing an added strain on scarce water resources when those resources are already stretched thin by competing needs. Several others analyze tools available to estimate the potential effects of climate change on State Water Project operations². Using these available tools, the DEIS/R must analyze impacts from the proposed SDIP project under climate change.

Accordingly, there is sufficient scientific information to warrant immediate and serious consideration of climate change in the SDIP, and NWF urges DWR to revise the EIS/EIR to disclose the impacts of the project under climate change.

NWF-1

The State of California is proving itself to be a leader in addressing global climate change through meaningful actions to minimize the threat altogether through reductions in greenhouse gas emissions, as evidenced by the call by Governor Schwarzenegger to establish significant emissions reduction targets under *Executive Order S-3-05*. That executive order also calls on the State to consider adaptation plans to combat the impacts of climate change. Through its ongoing water management planning process, DWR has an opportunity to bolster the state's leadership in this area as well. NWF sincerely hopes that you seize that opportunity today.

Sincerely,



Paula Del Giudice, Director
NWF Western Natural Resource Center

PSG/psg

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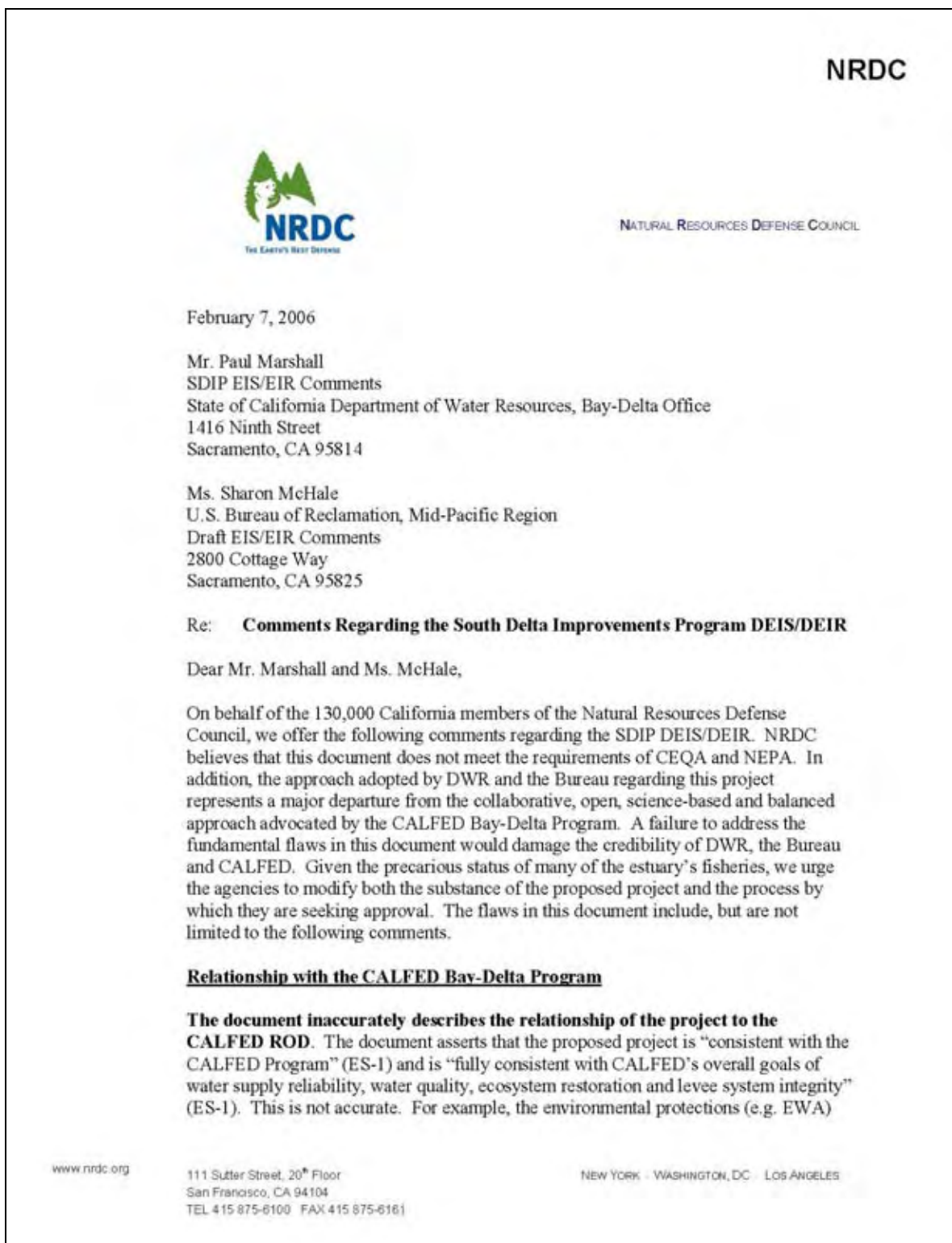
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Responses to Comments

NWF-1

Please see Master Response F, *Relationship between the South Delta Improvements Program and Climate Change Effects*.

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incorporated in this document are far less than required by the ROD and are inadequate to achieve the CALFED ecosystem restoration goals. The following list includes some of the inconsistencies between this project and related requirements in the ROD:

NRDC-1

- The CALFED process is required by law to produce a balanced program. On the other hand, this project appears to sacrifice ecosystem health and water quality in order to increase water deliveries.
- The proposed project falls far short of the EWA assets required by the ROD (CALFED ROD, p. 54-58). This issue is discussed further below.
- The CALFED ROD requires annual funding for the CALFED ecosystem restoration program of at least \$150 million per year, as a condition of maintaining ESA assurances for delta exporters. Given rapidly diminishing state bond funds, scarce federal funds, and the reluctance of water users to pay for this program, it is likely that these levels will not be maintained in the near future. However, the document does not discuss the likelihood of maintaining this funding level, which was found in the ROD to be necessary to ensure ESA compliance. The lack of funding for ecosystem restoration would significantly reduce the ability of fisheries agencies to implement restoration projects to mitigate the impacts of the CVP and SWP.
- State and federal agencies have failed to implement the \$35 million annually in new user fees designed to support the CALFED Ecosystem Restoration Program (CALFED ROD, p. 38). These user fees would be of significant assistance in maintaining the required funding level for ecosystem restoration.
- The document does not discuss the ROD requirement that any increase in SWP pumping is "conditional upon avoiding adverse impacts to fishery protection" (CALFED ROD, p. 49.) Given the negative impacts of this project and the precipitous decline of delta health, the proposed project clearly does not comply with this requirement.
- The CALFED program established a target of "continuously improving delta water quality for all uses" (CALFED ROD, p. 65). However, this document predicts degradation of delta water quality (p. 1-30, 5.3-36, 5.3-42).
- The CALFED ROD emphasizes improvements to "water supply reliability" (CALFED ROD, p. 40). However, as discussed below, the proposed project would increase short-term supplies at the risk of reducing long-term reliability.

NRDC-2

NRDC-3

NRDC-4

NRDC-5

NRDC-6

NRDC-7

A revised DEIR/DEIS should be issued, clearly indicating the areas in which funding for environmental restoration, water dedicated to the environment, water quality and other characteristics of this project conflict with or undermine provisions of the CALFED ROD. We recommend that the project be modified to conform to the ROD.

The document fails to analyze the impacts that the proposed project could have on the CALFED Ecosystem Restoration Program. The goal of this program is:

"To improve aquatic and terrestrial habitats and natural processes to support stable, self-sustaining populations of diverse and valuable plant and animal species through an adaptive management process. Implementation of the ERP includes recovery of

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species listed under the State and Federal Endangered Species Acts.” (CALFED ROD, p. 35)

As the comments in this letter and the analysis in this document indicate, the proposed project could have significant negative impacts on the Bay-Delta ecosystem. However, the document does not discuss how this project would affect progress toward and the likelihood of success of the CALFED Ecosystem Restoration Program. In particular, the document does not adequately analyze how it will contribute to the recovery of endangered species.

NRDC-8

An adequate analysis of these potential impacts is particularly important because balanced progress towards the CALFED ecosystem goal is required by the state and federal authorizations for the CALFED program.

The document fails to analyze impacts on the CALFED Water Quality Program:

The document acknowledges that the project is likely to degrade water quality (p. 1-30, 5.3-36, 5.3-42). However, the document does not adequately discuss impacts to the CALFED program’s efforts to achieve “continuously improving Delta water quality for all uses” (CALFED ROD, p. 65).

NRDC-9

Alternatives, Projected Water Demand and Potential Water Supply

The document fails to include a full range of alternatives. Specifically, the project description is impermissibly narrow to meet the requirements of CEQA and NEPA. The three operational alternatives retained for further consideration all include significant increases in water exports (Figure 4-2). The document rejects alternatives such as reducing exports (p. A-13) and fallowing agricultural land (p. A-34).

In rejecting land fallowing, the document states that this alternative does not meet the export objective (p. A-34). In this discussion, the project is improperly defined as increasing water diversions. It should properly be defined as striving to provide reliable water supplies. This correct definition would allow alternatives that would reduce demand to be considered on a level playing field with those that would increase supply. Rejecting alternatives simply because they are not the agencies’ preferred method of providing water supplies (i.e. increasing delta diversions) violates the requirements of CEQA and NEPA.

NRDC-10

If this approach were deemed to be acceptable, it would suggest, for example, that a proposed wetland fill or surface storage project could avoid evaluating any alternative sites simply by constraining the project purpose to a particular site.

The lack of a full range of alternatives is also reflected by the conclusion that the operational alternatives have similar potential impacts (p. 6.1-112 and 6.1-113). It is not credible to assert that the agencies do not have alternatives available to them that would result in varying impacts to the delta environment.

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Further, the document states that a reduction in delta pumping is inconsistent with local delta-specific objectives regarding deliveries to the South Delta Water Agency (p. A-13). The document, however, fails to mention that in-delta water users support the evaluation of a reduced delta pumping alternative. Thus, this criterion is misapplied. Likewise, the criteria are misapplied when the document states that increasing water diversions "does not meet the fish objective" (p. A-34). In fact, reduced delta pumping could assist with reducing entrainment of salmon at the pumps, the two fisheries related alternatives (p. A-2). Such an alternative would also assist with the restoration of delta fisheries and the delta ecosystem, which should have been included as an objective of the project.

NRDC-10

The revised document must include an analysis that significantly reduces delta diversions, per the Third District Court of Appeals decision in *RCRC et al v. State of California*. The need for such an analysis is clearly demonstrated by the fact that the alternatives considered by the Bureau to address the drainage problems in the San Luis Unit of the CVP include land retirement. Regarding drainage issues, the Bureau has found that land retirement is a legitimate alternative. It has been improperly excluded from this analysis.

The document improperly dismisses alternative water supplies highlighted by the State Water Plan. The newly released State Water Plan

(<http://www.waterplan.water.ca.gov/cwpu2005/>) demonstrates the significant potential of a wide range of alternatives to provide reliable water. Indeed, this plan reveals that the potential supply from increased delta pumping is far lower than other water management tools, such as urban water conservation. The scale of potential supply benefits from other water management tools demonstrates that there are practical alternatives that would allow DWR and the Bureau to evaluate an alternative in this document that would reduce delta diversions. Finally, the document fails to discuss the demonstrated benefits of these alternative water supply tools. For example, the document fails to discuss the fact that several urban areas have grown substantially over the past several decades; however, as a result of investments in water conservation and other water management tools, these areas have not seen a proportional increase in their water consumption. Demand-side water management tools have are clearly demonstrated to be credible alternative sources of reliable water. They have been improperly excluded from this analysis.

NRDC-11

The document fails to account for the likelihood of decreased agricultural water demand. The document assumes that future demands by south of delta agriculture will be the same in the future (Table 5.1-1). However, the new State Water Plan finds that agricultural demand south of the delta is likely to be significantly lower in the future. (Although this report was recently released, this analysis was performed by DWR and was available for inclusion in this document.) In fact, agricultural water leaders have advocated such a reduction. For example, Tom Birmingham, General Manager of the Westlands Water District, has advocated a land retirement program that would reduce irrigated acreage within that district by one third – 200,000 acres (Op-Ed by Tom Birmingham, Bakersfield Californian, May 1, 2002). Clearly, a land fallowing program

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is acceptable to agricultural water leaders and could be incorporated in an alternative that would reduce delta pumping.

NRDC-12

The document fails to include the Bureau's projections regarding future CVP water deliveries. As discussed above, the document fails to project reductions in San Joaquin Valley agricultural water demand. In addition, the document fails to incorporate the Bureau's projections regarding future CVP water deliveries in the Sacramento Valley. The document projects Sacramento River water demands to be unchanged in the future (Table 5.2-2). However, in a letter to Congressman George Miller dated December 23, 2004, Bureau Commissioner John Keyes stated that the Bureau intends to make full deliveries of the water quantities included in renewed CVP contracts. NRDC has provided documents to both the Bureau and DWR that demonstrate that actual water use in recent years has been more than 560,000 acre-feet below these contract totals. If the Bureau intends to make full deliveries in the Sacramento Valley, the document must incorporate these projections, and modify the impacts analysis accordingly.

NRDC-13

The document inaccurately constrains projected future demands for cross-delta water transfers. The document suggests that future demand for cross-delta water transfers will be a maximum of 600,000 acre-feet per year (p. 5.1-51). However, in the past, more water than this amount has been transferred in a single year. In addition, in personal conversations, staff from state and federal agency have indicated that actual demand for cross-delta transfers could be as much as 800,000 TAF to 1 MAF in a single year. The analysis of the hydrologic record in the document concludes that the project would lead to 601 TAF of transfers in at least 6 years (Table 5.1-15). This conclusion suggests that pumping capacity would allow transfers greater than this amount. Indeed, south of delta water users have cited increased transfer capacity as one of the benefits of the proposed project. Given that there is nothing in the proposed project that would prohibit transfers above this level, this assumption artificially lowers potential impacts. The revised document should analyze the potential impacts if actual demand for cross-delta transfers proves to be higher than 600,000 af/y.

NRDC-14

Environmental Water Account and Water Supply Reliability Impacts

The document does not adequately analyze the weakening of environmental protections included in the CALFED ROD and inaccurately describes the Environmental Water Account. The CALFED ROD required many specific environmental protections measures. For example, the ROD required specific amounts of water for the Environmental Water Account. In the discussion of the EWA, the ROD included careful definitions of the water to be provided by tiers 1 and 2 of the Environmental Water Account (CALFED ROD, p. 54-58). It also required additional water to be provided under Tier 3, should this water be required. However, these assets have not been implemented as required by the ROD.

NRDC-15

This failure has been widely observed. For example, Environmental Defense has prepared an analysis, entitled *Finding the Water*, of the failure of DWR and the Bureau

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to implement the protections required by tiers 1, 2 and 3 of the Environmental Water Account. This document is available at the following site:

http://www.environmentaldefense.org/documents/4898_FindingWater.pdf The Environmental Defense analysis reveals that, during the past several years, the EWA has been 300,000 to 400,000 acre-feet short of the requirements of the ROD, on an annual basis. As a result, fish protection and restoration actions have been severely curtailed.

In addition, during 2005, delta smelt and other delta fish species experienced a decline to historic lows. Fisheries biologists are now concerned that the smelt could become extinct in the coming few years. During 2005, however, because of the inadequacy of EWA assets, fisheries agencies curtailed EWA actions designed to protect the delta environment. Clearly, Tier 3 assets were required this year to meet the requirements of the ROD and the ESA. However, these assets were not provided. Thus, Tiers 1, 2 and 3 fall far short of the requirements of the CALFED ROD.

In the delta smelt OCAP Biological Opinion, the Fish and Wildlife Service acknowledged the potential impacts of this project and the unreliability of the EWA. That document states:

"In summary, the threats of the destruction, modification, or curtailment of its habitat or range resulting from extreme outflow conditions, the operations of the State and Federal water projects, and other water diversions as described in the original listing remain. The only new information concerning the delta smelt's population size and extinction probability indicates that the population is at risk of falling below an effective population size and therefore in danger of becoming extinct. Although VAMP and Environmental Water Account have helped to ameliorate these threats, it is unclear how effective these will continue to be over time based on available funding and future demands for water" (Delta Smelt OCAP BO, p. 121-122).

NRDC-15

The document also does not discuss this possibility that Tier 1 or 2 of the EWA could be further reduced. For example, the Westlands Water District is continuing to seek further weakening of the implementation of CVPIA Section 3406(b)(2) (e.g. Letter to Lester Snow and Ryan Broddrick from Kern County Water Agency, Metropolitan Water District of Southern California, San Luis and Delta-Mendota Water Authority and Westlands Water District, November 8, 2004). This provision of federal law dedicated 800,000 acre-feet of CVP water annually to environmental protection and restoration. If the Department of Interior were to decide to weaken implementation of the CVPIA again, tier 1 of the EWA would be further reduced.

Further, the CALFED ROD described specific estimates of EWA assets (ROD, p. 58), establishing a relatively low target for north of delta purchases. However, in recent years, the EWA has purchased more water north of the delta than assumed in the ROD.

This has resulted in increased delta pumping than assumed by the ROD. The document does not adequately address the potential impacts of this change on the environment.

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The document further inaccurately describes the Environmental Water Account when it states that the EWA as described in the OCAP and this document is "greater than CALFED ROD EWA" (p. 6.1-2, 6.1-96, 6.1-115). In fact, as discussed above, the amount of water provided by the EWA pursuant to the OCAP today is significantly less than that provided by the ROD.

DWR and the Bureau have consistently refused to analyze the impacts of these dramatic changes. By failing to adequately describe baseline conditions and minimum EWA requirements, the document relies on a tool with little certainty, in terms of its potential to mitigate for the impacts of the proposed project. This document provides no mechanism to ensure that the EWA water assumed to be available will be provided with greater reliability than in the past.

NRDC-15

If the agencies propose to rely on the EWA, the revised document should clearly state the minimum requirements of this tool. The document should provide a clear, reliable mechanism to provide all of this water. Finally, it should clearly state that all ESA delta assurances will be terminated if these minimum requirements are not met. Such a change would provide a clear mechanism to ensure compliance with the ESA and CESA.

The document inaccurately describes the water supply reliability impacts of the project. The document indicates that the project is designed to improve reliability (p. 1-15) and predictability (p. 1-19) of water supplies. However, an increase in delta diversions could harm the reliability of water supplies used by south of delta agencies. For example, such an increase in diversions would increase the vulnerability of south of delta water users to potential failure of delta levees. These risks are significant, as indicated by the recent and widely-cited study by Dr. Jeffrey Mount of the University of California at Davis. In addition, by further harming delta species and increasing the likelihood of additional ESA listings, the operational phase of the project could increase regulatory constraints on the CVP and SWP, thus decreasing water supply reliability. These risks are inadequately discussed in this document. In fact, the document reaches a contrary conclusion that the project will improve reliability.

NRDC-16

In addition, water supply reliability is used as an objective for screening alternatives (p. a-2). However, this criterion is misapplied. The document does not indicate that an increase in delta diversions could reduce reliability, nor does the document discuss the higher reliability of many alternative supply sources.

Natural Resource Impacts

The document does not adequately describe potential impacts to the delta smelt. The document does not adequately review the current status of the smelt. The smelt index for the past year has been the lowest ever recorded (e.g., Matt Weiser, "New Low for Tiny Fish," *Sacramento Bee*, October 31, 2005; Mike Taugher, "Environmental Sirens in the Delta are Screaming," *Contra Costa Times*, May 1, 2005.) The fall

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midwater trawl index for September and October, 2005, and the delta smelt recovery index fell to 4. To put this in perspective, the Biological Opinion states that a recovery index of less than 74 should trigger "concern" and consideration of a number of management responses to halt the decline. Biologists are increasingly concerned that the smelt could become extinct in the coming few years (e.g., Bennett, W.W. and K.T. Honey, *Modeling the Canary: How Do We Assess Population Viability for the Threatened Delta Smelt?*, Proceedings of the 2004 CALFED Bay-Delta Program Science Conference.) The document similarly fails to present an adequate summary of the status of other delta fish species that have suffered similar declines in recent years (http://www.science.calwater.ca.gov/pdf/workshops/POD/CDFG_POD_Pelagic_Fishes_Trends.pdf).

The Fish and Wildlife Service's August, 2004 Delta Smelt OCAP Biological Opinion clearly indicates serious potential impacts of increased delta pumping.

"In summary, the operations of the Projects under formal consultation as described in the Project Description will result in adverse effects to delta smelt through entrainment at the CVP and SWP and by drawing delta smelt into poorer quality habitat in the south delta (Delta Smelt, OCAP BO, p. 176).

"Even if D-1641 X2 standard continues to be met, there could be adverse effects to delta smelt if X2 moves upstream of Chipps Island in the future Study (as modeled in the BA). Since delta smelt generally move with X2, a further upstream location of X2 near Chipps Island in the future Study could result in a distribution pattern wherein more delta smelt would be susceptible to entrainment and elevated mortality in the Central and South Delta due to high temperatures or predation." (Delta Smelt, OCAP BO, p. 140).

The document does acknowledge that delta smelt salvage could increase "from 15% to 35% (p. 6-1.95). However, the document relies on an ineffective and unreliable EWA to reduce these impacts (6.1-96). Given the status of the smelt, the increasing probability of extinction, the potential impacts of the project and the proven inadequacy of the EWA, the document inappropriately concludes that the project will result in "less-than-significant" impacts (p. 6.1-96).

The document also states that "no specific reason should be assumed at this time," for the decline in delta pelagic fish. However, as discussed above, the Fish and Wildlife Service has already determined that proposed operations could further harm the smelt. In addition, the CALFED Science Panel review of the decline of pelagic fish concluded that exports may be a significant cause of the decline of pelagic species. (http://science.calwater.ca.gov/pdf/workshops/IEP_POD_2005WorkSynthesis-draft_111405.pdf.)

In addition, an analysis of the impacts of delta pumping has been prepared by the Bay Institute (attached). This analysis reveals potential impacts from increases in delta pumping, including interim operations, which are more significant than are included in

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the document.

Some of the potential impacts of this project could be impossible to remedy. For example, a miscalculation regarding the impacts of the proposed project could contribute to the extinction of the delta smelt. The document fails to exercise appropriate caution in considering this issue.

NRDC-17

The document fails to analyze potential impacts on longfin smelt. This species has suffered a significant decline in abundance and been proposed for listing under the Endangered Species Act. In addition, biologists have found that longfin is highly sensitive to delta outflow (see sources cited in previous comment). Therefore, longfin could be particularly vulnerable to cumulative impacts from water diversions and the specific impacts of the operational phase of this project. The document acknowledges that longfin smelt could be affected by the project (Table 6.1-1). These potential impacts, however, are not adequately discussed. In fact, longfin is excluded from the species-by-species analysis of vulnerable species (p. 6.1-4 et seq.)

NRDC-18

The document incorrectly dismisses serious impacts to splittail. The document acknowledges that the project could increase splittail salvage by up to 40%, but incorrectly concludes that no mitigation is necessary (p. 6.1-99). The splittail has also been proposed for listing under the Endangered Species Act. Reductions in the frequency of floodplain inundation and increases in salvage could have a serious impact on the species. For example, a reduction in floodplain inundation prior to splittail spawning could have an impact on food availability.

NRDC-19

The document incorrectly characterizes the entrainment impacts the project could have on juvenile spring and winter run Chinook salmon. The document indicates that the proposed project has the potential to cause a dramatic loss of juvenile salmon (p. 6.1-85-86). The document relies on the EWA as a mitigation tool; however, as discussed elsewhere in these comments, the document fails to analyze the potential impacts in the likely event of the failure of the EWA.

NRDC-20

The document does not adequately describe potential temperature impacts on salmon. During the 1987-1992 drought, the Bureau proposed to drain Shasta Lake to "dead storage", in order to maximize CVP water deliveries. In fact, it was this proposal that led NMFS to impose a carry-over storage requirement on the operations of Shasta Dam, in an attempt to ensure adequate cold water to protect downstream salmon. The NMFS OCAP BO eliminated this storage requirement and weakened downstream temperature protections. The document does acknowledge that model runs reveal that end-of-year storage is likely to be lower than 1.9 MAF in Shasta in some years (p. 5.1-11). However, this document does not adequately discuss the extent to which the increase in pumping, and the agreement to wheel CVP water, could lead to re-operation of Shasta Dam, with serious impacts on downstream fisheries. In particular, the document should analyze the temperature impacts if Shasta Dam is operated to maximize water deliveries during extended droughts. The same analysis should be prepared for other SWP and CVP storage facilities.

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The document does not adequately describe potential impacts to ecosystem functions on rivers below major CVP and SWP storage facilities. For example, the document does not adequately describe potential impacts on riparian recruitment and other important ecosystem functions on the reaches of CVP and SWP controlled rivers between storage facilities and the delta. These ecosystem functions could also be affected by the aggressive operational scenarios discussed above.

NRDC-22

The document fails to adequately analyze the potential impacts of the project on San Joaquin River salmon. The document acknowledges significant potential entrainment impacts for San Joaquin Rivers Chinook salmon (p. 6.1-82). The document relies on EWA actions to minimize these impacts (p. 6.1-83). However, the document does not discuss the unreliability of the EWA, as discussed above. In fact, the document clearly suggests that, should the EWA fail to provide adequate resources, fisheries protection measures may not be implemented (p. 6.1-83). Further, in August of 2004, the federal district court in Sacramento found, in *NRDC v. Rodgers*, that flows to the dry upper San Joaquin River, below the Bureau's Friant Dam, must be restored. In a letter dated August 2, 2005, from the National Marine Fisheries Service to the State Water Resources Control Board, NMFS discusses this federal court ruling and concludes that "It is likely as a consequence of this decision that flows will be returned to the San Joaquin River." Thus, restoration of the San Joaquin is a reasonably foreseeable action. Clearly, salmon on the restored reach of the river could be harmed by the proposed project. These potential impacts are not adequately analyzed.

NRDC-23

The document fails to analyze adequately the impacts of proposed interim operations. One hypothesis regarding the recent decline of delta pelagic organisms is that increases in winter pumping may not be as biologically benign as had been previously assumed. Given that the proposed interim operations would be focused during this period (p. 2-2), these operations could have substantial impacts. The document includes no reasoning to justify this increase in delta pumping prior to the completion of additional information regarding the decline of delta fisheries.

The EWA is the primary tool cited in discussions of efforts to reduce the fisheries impact of the operational phase of the project. However, the discussion of interim operations states that there will be "no impact on EWA." Thus, it is not clear if this tool has been excluded as a mitigation tool for interim operations, or if interim operations would provide EWA water in an attempt to self-mitigation. In short, the document includes no specific requirements to clarify the general statement that interim operations will not be allowed if they would result in "substantial fish effects" (p. 6.1-105). As is discussed above, the CALFED ROD contains very similar language regarding the proposal to increase delta pumping limits. However, the concerns in this letter clearly demonstrate that DWR and the Bureau have found it difficult to develop a project that complies with this requirement.

NRDC-24

The document does not adequately describe potential impacts to the Trinity River. For example, the document focuses its analysis on coho salmon and fails to adequately

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analyze potential impacts on steelhead and Chinook salmon. These species do not have the same life history as coho and may be more sensitive to some potential impacts from the proposed project. Cold water from the Trinity system contributes to survival of Klamath River salmon. However, this document fails to adequately analyze the potential for reoperation of Trinity Dam, as a result of this project, to harm the Klamath River.

NRDC-25

The document incorrectly relies on a flawed NMFS OCAP Biological Opinion.

The Department of Commerce Inspector General's review of the NMFS OCAP Biological Opinion found that the agency violated internal procedures regarding this document. In addition, the CALFED Science Program review of the NMFS OCAP BO found that it failed to include the best available science (http://science.calwater.ca.gov/pdf/workshops/OCAP_review_final_010606_v2.pdf). These two reviews suggest that political interference prevented the agencies from applying the best available science to the analysis of OCAP, including analysis of the proposed project. It is inappropriate for this document to rely on the flawed NMFS document, and its flawed conclusions regarding compliance with the ESA. The deficiencies cited in the CALFED review should be addressed and resolved in the revised document.

NRDC-26

Water Quality Impacts

The document fails to discuss adequately the potential water quality impacts of the proposed project. For example, the document does not adequately analyze the water quality impacts of the delivery of water that would be provided by the project to drainage-impaired lands served by the CVP and SWP. Water used on these lands, which otherwise might be retired or subject to greater water conservation measures, is likely to exacerbate water quality problems in the San Joaquin River and in evaporation ponds. The inclusion of an alternative that would reduce delta pumping would demonstrate that different operational regimes for the delta pumps can result in different water quality impacts.

NRDC-27

The document also does not adequately discuss violations of delta water quality objectives for which DWR and the Bureau are jointly responsible. For example, the document does not discuss the fact that the State Water Resources Control board is considering the issuance of a cease and desist order against DWR and the Bureau regarding violations of these objectives. The document does not discuss the impact that the proposed project would have on efforts to achieve compliance, or if other alternatives would be of greater benefit in terms of achieving compliance.

Cumulative Impacts

The document does not adequately analyze potential cumulative impacts. The discussion of cumulative impacts is remarkably brief, incomplete and inadequate, particularly for a project of this magnitude in a complex system that is so highly degraded. The decline of delta fisheries and of other resources in the Bay-Delta

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watershed is a study in cumulative impacts. Upstream and delta diversions, water quality problems and invasive species have all played a role in the decline in the health of the Bay-Delta ecosystem. The SWP and the CVP control the two largest water projects in the watershed. Considered comprehensively, the construction of these projects and their ongoing operation has had a major impact on the Bay-Delta ecosystem. In addition, water use and agricultural return flows associated with these projects contribute to water quality degradation. Finally, water project operations have played a significant role in modifying the ecosystem and making that ecosystem more hospitable to invasive than to some native species.

Given the number of fish species currently listed pursuant to ESA and CESA, and the number of fish proposed for listing, an adequate analysis of cumulative impacts is particularly important. Given the precarious status of the delta smelt, a single project with limited direct impacts could, when considered from a cumulative perspective, provide the final blow leading to extinction. This issue was discussed recently in the Northern District's February 3, 2006 order granting a temporary restraining order regarding the Intertie Project in *PCL v. U.S. Bureau of Reclamation*.

NRDC-28

We will offer only one specific example of the failure of this analysis. The cumulative impacts analysis excludes the renewal of CVP contracts that will direct the delivery of millions of acre feet of water for at least 25 years (Table 10-1). The CVP is currently unable to deliver full contract quantities under the renewed and proposed renewed CVP contracts. In addition, as discussed above, the Bureau intends to make full deliveries in the future. This failure is particularly glaring, given the fact that the discussion of cumulative impacts does mention the importance of the OCAP and the OCAP Biological Opinions (p. 10-4), which are the ESA compliance documents for the renewal of CVP contracts.

Segmentation and CESA Compliance

The proposed environmental compliance process has been improperly segmented.

The document states that the two phases of the project have been separated to allow the agency to analyze "additional information collected on the condition of pelagic organisms in the Delta." (p. ES-2) The document further states that the preferred alternative for the operational phase will be developed on the basis of this new information (p. ES-4). However, the document also states that the agencies do not intend to perform a full DEIR/DEIS on the basis of that new information. Rather, it states that a supplemental document will be circulated, immediately prior to the signing of the ROD (p. ES-2, 2-5).

NRDC-29

Clearly, the lead agencies anticipate the development of significant new information prior to the circulation of the proposed supplemental document. Indeed, the development of this information is the very reason why the project has been separated into two phases. Given that the agencies fully expect new information to be developed, and that this information will be used to develop a preferred alternative, CEQA and NEPA require the circulation of a full, new DEIR/DEIS.

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The document does not adequately discuss compliance with the CEQA and the California Endangered Species Act. The document discusses the OCAP as a joint state/federal document (p. 10-4). It does not, however, discuss who this document complies with CESA or CEQA. This is particularly important because, given the phased nature of this project, it is not clear how CESA compliance will be achieved prior to the implementation of the operational phase of this project (p 8-20).

NRDC-30

Climate Change and Energy Impacts

The document does not evaluate how the impacts of global warming would affect the impacts of the project. The proposed project would be in place for decades. It is reasonably foreseeable that climate change would change hydrological conditions in the Bay-Delta watershed. In fact, these potential impacts are anticipated by the new State Water Plan. For example, these changes could reduce spring and summer stream flows, and increase river temperatures. By failing to analyze these expected changes, the document fails to discuss how the proposed project could exacerbate expected impacts from climate change.

NRDC-31

The document does not adequately analyze the energy and global warming impacts of the proposed project. NRDC's analysis of the energy impacts of water management decisions (*Energy Down the Drain*, 2004, <http://www.nrdc.org/water/conservation/edrain/contents.asp>) demonstrates that a large amount of energy is consumed by water use, particularly in urban areas, that extends far beyond the direct energy consumed to pump water from the delta. This analysis found, for example, that end use can consume more water than is consumed pumping water to its point of use. Recent analysis by the California Energy Commission has reinforced this conclusion. However, the document inappropriately limits the analysis of energy impacts to electricity directly required by the CVP and SWP (Table 7.5-3). Thus, it understates the energy, air quality and global warming impacts of the project.

NRDC-32

Models

The document inappropriately relies on a flawed CALSIM II program. The 2003 scientific review of the CALSIM II model revealed major weaknesses in this tool. A recently completed CALFED evaluation of this tool also concluded that "large uncertainty remains", particularly regarding critically important salinity issues. (http://science.ca.water.ca.gov/workshop/calsim_05.shtml). Given that salinity and related flow issues are critical to the analysis of impacts including but not limited to delta smelt, longfin smelt and water quality, this failure represents a major shortcoming. The document fails to correct these flaws or to discuss adequately these shortcomings. Continued use of CALSIM II in its current form does not represent the best science available.

NRDC-33

Adaptive Management

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The document inaccurately describes the existing and proposed adaptive management program. The document includes a discussion of adaptive management (p. 6.1-114), which explains how SDIP mitigation measures will be adapted over time, as a result of monitoring and research. This discussion, however, is contradicted by recent experience. As discussed above, DWR, the Bureau and state and federal fisheries agencies have not conducted a thorough analysis of the failures of the EWA. This led Environmental Defense to prepare their report *Finding the Water*. The agencies have failed to analyze and respond to that report or to analyze how the shortfalls in the EWA may have harmed delta resources. This refusal to analyze an issue as fundamental as the amount of water available to the EWA demonstrates a reluctance to engage in effective adaptive management.

NRDC-34

The proposed project does not include any mechanism that would lead a reasonable observer to conclude that the proposed EWA will be significantly more reliable than it has been in recent years. To the contrary, the document suggests that "normal EWA adaptive management decision-making procedures" (p. 6.1-117) will be used, suggesting that existing failed procedures will continue to be used in the future. The lack of an effective adaptive management program is very likely to result in impacts higher than those projected. If the agencies define the project as including an adaptive management program, they must include a more credible program than has been developed to date.

Impacts to Native American Communities

The document does not adequately describe potential impacts on Native American communities who have traditionally relied on salmon. Water projects, particularly the CVP, have a long history of failing to consider adequately the impacts of water project construction and operation on Native American communities. Tribes on the Sacramento, Trinity, Klamath and other river systems could be adversely affected by the proposed project. These impacts are not adequately discussed in Section 7.10.

NRDC-35

Recommendations: The above comments include several specific recommendations. NRDC also recommends that DWR and the Bureau take the following general actions to address the potential violations of legal requirements discussed above:

- Withdraw this document and reissue a new DEIR/DEIS to address the above concerns.
- Clearly commit to full new DEIR/DEIS to analyze the potential impacts of any change in SWP pumping levels, once additional detail is available regarding the decline of the health of delta fisheries.
- Prepare a preferred alternative that would significantly reduce total delta diversions, with the reduction focused on months during which fisheries agencies believe that the delta environment is particularly vulnerable.

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- Prepare an alternative designed to provide maximum water supply reliability, as opposed to increased water deliveries. This alternative should focus on the reliability benefits of local water supply development and reduced delta diversions.
- Ensure that the amount of water dedicated to protection of the Bay-Delta ecosystem in the preferred alternative is equal to or greater than the amount of water dedicated to environmental protection in the CALFED ROD.
- Clearly indicate that existing ESA assurances for the delta pumps will be terminated, and uncompensated pumping reductions will resume, if the EWA does not receive the assets anticipated in the final EIR/EIS.

Thank you for considering our comments.



Barry Nelson
Senior Analyst

Att: Effects of Exports on Delta Smelt Population Abundance - Preliminary
Analyses, Tina Swanson, The Bay Institute, November 2005

Letter from the National Marine Fisheries Service to the State Water Resources
Control Board, August 2, 2005

Responses to Comments

NRDC-1 and NRDC-2

The SDIP is consistent with the CALFED ROD. The SDIP does not replace CALFED; it is one of the many projects described in the CALFED ROD. The CALFED program contains multiple projects that are intended to move forward together. Some of these projects are specifically intended to improve water quality and ecosystems.

NRDC-3

Please see Master Response E, *Reliance on Expanded Environmental Water Account Actions for Fish Entrainment Reduction*.

NRDC-4

SDIP mitigation measures are not dependent on other program documents or existing BOs. SDIP Stage 1 mitigation measures primarily are associated with the construction impacts of dredging and constructing the proposed permanent operable gates. SDIP Stage 2 mitigation measures are designed primarily to avoid impacts associated with additional Delta diversions. SDIP Stage 2 operations will not be decided on in 2006. Rather, Reclamation and DWR are waiting for results from studies on the decline of pelagic organisms before proposing an SDIP Stage 2 action.

NRDC-5

The SDIP includes mitigation of the incremental increase in entrainment attributable to increases in SWP pumping for Stage 2 of the SDIP. Mitigation of increased entrainment would be implemented through the EWA or an avoidance and crediting system. Each of these methods includes avoidance of increased entrainment during periods of high fish density. Therefore, the SDIP complies with the ROD requirements. Additional actions are included in the SDIP ASIP for purposed of meeting the requirements of CESA, and other plans are underway to develop restoration.

NRDC-6 and NRDC-9

The water quality impacts of the SDIP are fully evaluated in Section 5.3 of the SDIP Draft EIS/EIR. Impacts to water quality are determined to be less than significant. The SDIP does not interfere with nor hinder the implementation of any other CALFED water quality improvement action.

NRDC-7

The increased flexibility in operation of the SWP Banks Pumping Plant will increase opportunities for responding to varying conditions such as availability of water, fish presence, flows and water quality, and will therefore increase long-term reliability.

NRDC-8

The SDIP Draft EIS/EIR identifies and mitigates significant impacts from the SDIP Stage 1 and Stage 2 effects. It is assumed that responsible CALFED agencies will initiate other actions to continue the protection, habitat restoration, and recovery of listed species. These listed-species issues are directly addressed in the SDIP ASIP.

Analysis of the potential success of an outside program is not a CEQA/NEPA requirement. However, Reclamation and DWR are required to analyze impacts on the ecosystem. Significant impacts on the environment are summarized in Chapter 4 of the SDIP Draft EIS/EIR and explained in more detail in latter chapters.

NRDC-10

Please see Master Response D, *Developing and Screening Alternatives Considered in the South Delta Improvements Program Draft EIS/EIR*. Operational Scenario B does not significantly increase exports, and operations under this scenario would be dependent of fish presence and approval from fish agencies. Additionally, land fallowing in the south Delta was considered to meet local objective, not to meet the export objective.

NRDC-11

Please see Master Response L, *Relationship between the South Delta Improvements Program and the California Water Plan Update 2005*.

NRDC-12

The CALFED program includes a thorough evaluation of water-use efficiency and funded actions to improve efficiency statewide. The SDIP will increase the reliability of water deliveries from the Delta to CVP and SWP contractors. Reduced demands and efficiency can proceed independently from the SDIP. The SDIP contributes to the overall CALFED goals of making through-Delta conveyance work more efficiently and reducing conflicts with habitat restoration

and water quality improvements. The SDIP would allow an increased diversion capacity; however, the SDIP does not set the water delivery targets and cannot change the contracted water demands.

NRDC-13

The CALSIM model includes the best available estimates of both CVP and SWP delivery projections for the Sacramento and San Joaquin River basins. The changes expected between 2001 and 2020 conditions are included in the two sets of modeling results.

NRDC-14

The SDIP water transfer analysis is thorough, with all assumptions described in Section 5.1 of the SDIP Draft EIS/EIR. The analysis is adequate for identification and discussion of these potential indirect impacts of the SDIP.

NRDC-15

Please see Master Response E, *Reliance on Expanded Environmental Water Account Actions for Fish Entrainment Reduction*. The SDIP entrainment mitigation is consistent with the CALFED EWA program and requires an expanded EWA or an avoidance and crediting system compared to the baseline EWA actions. The SDIP assumes that the EWA actions are the best available method for entrainment impact mitigation. Additional information available at the time of the Stage 2 decision-making process will be included in the CEQA/NEPA document for that Stage. Also, please see Master Response B, *Relationship between the South Delta Improvements Program and the Pelagic Organism Decline*.

NRDC-16

CVP and SWP water supply reliability is described as the ability to deliver the full contract demands in all years. Reliability is generally controlled by three factors: the magnitude of the total demands (higher demands are less reliable), the volume of runoff and storage that provides the water supply (higher runoff and storage increases reliability), and the conveyance capacity (higher capacity increases reliability). The SDIP would slightly increase the conveyance capacity from the Delta and would allow more of the available water supply (including water transfers) to be pumped. The CALSIM model provides the evaluation of the increased reliability achieved with each Stage 2 alternative. The SDIP does not change the risk of levee failure that may temporarily interrupt pumping and may temporarily degrade water quality (i.e., higher EC and TOC).

NRDC-17

Please see Master Response B, *Relationship between the South Delta Improvements Program and the Pelagic Organism Decline* and Master Response E, *Reliance on Expanded Environmental Water Account Actions for Fish Entrainment Reduction*. Appendix J of the SDIP Draft EIS/EIR provides a review of recent abundance index values for delta smelt and the other pelagic fish that are being considered in the POD investigations. The actual salvage numbers for some of these fish are shown in Tables J-3 to J-12. The salvage of delta smelt and other pelagic fish (e.g., striped bass, splittail) in recent years is very similar to salvage in the last 20 years; no major change in abundance is apparent in the salvage numbers for these fish. Whatever the abundance each year, the SDIP entrainment effects on each species are assumed to be proportional to the change in pumping in months with greatest seasonal abundance. The analysis of entrainment effects from the SDIP Stage 2 on delta smelt is thorough. An expanded EWA or an avoidance and crediting system will be effective mitigation.

NRDC-18

The SDIP evaluated representative fish species; longfin smelt was not evaluated because it is generally found in the estuarine part of the Delta, and is not strongly affected by export pumping (low salvage numbers). Appendix J of the SDIP Draft EIS/EIR provides some information on the longfin smelt abundance index. The habitat for longfin smelt is much more estuarine than habitat for delta smelt (Bay Study, see IEP Technical Report 63). The effects of outflow, which regulates the salinity gradient and may control the available habitat for delta smelt and longfin smelt, are dominated by seasonal hydrology. Effects from SDIP pumping on longfin smelt are considered to be less than for delta smelt. The effects on longfin smelt are expected to be less than those found for delta smelt.

NRDC-19

Splittail are included in the representative species evaluated in Section 6.1 of the SDIP Draft EIS/EIR. However, all potential impacts (Fish-65 to Fish-69) are considered to be less than significant because the abundance of juvenile splittail is determined by flooded channel conditions in high flow years. In those years of high abundance, there may be high salvage numbers. For example, in June of 2006, there were more than 5 million splittail salvaged at the CVP and SWP facilities (1 million on June 6 at the CVP). However, export pumping is not considered to be a major factor in the population or abundance fluctuations of splittail.

NRDC-20

Please see Master Response E, *Reliance on Expanded Environmental Water Account Actions for Fish Entrainment Reduction*.

NRDC-21

Shasta Reservoir operations are fully described in the OCAP documents and properly simulated in the CALSIM modeling. As described in Section 5.1 of the SDIP Draft EIS/EIR, the carryover storage of Shasta Reservoir is one of the basic indicators of water management in the Sacramento River basin. Several dry years have storage below the 1.9 maf objective, which would require consultation under the OCAP BO. The SDIP does not result in any significant change in the Shasta Reservoir carryover storage or release flows that would change temperatures below Keswick Dam. Temperature effects are fully evaluated below each reservoir in Section 6.1, and these results are shown in Appendix K of the SDIP Draft EIS/EIR. Reclamation is fully committed to temperature monitoring and management below Keswick and works with NMFS each summer and fall to adaptively manage this important habitat condition, in accordance with the State Water Board temperature requirements.

NRDC-22

Changes in monthly flow are assumed to be a surrogate for all other riparian and aquatic habitat conditions below reservoirs. The changes from SDIP Stage 2 alternatives are found to be less than significant in Section 6.1 of the SDIP Draft EIS/EIR. Stage 2 of the SDIP will be reevaluated during the Stage 2 decision-making process.

NRDC-23

One of the major features of SDIP Stage 1 is the fish control gate at the head of Old River. It will increase the protection of migrating San Joaquin River Chinook salmon fry and smolts by remaining closed from April 1 through May 31, doubling the period of protection provided with the temporary barrier program and VAMP. Restoration of the San Joaquin River below Friant Dam is a potential cumulative action that may occur in the future. The SDIP protection of San Joaquin River fall-run Chinook salmon, and potentially spring-run, may be even more important if the population on the San Joaquin River and tributaries is increased as a result of these restoration efforts.

NRDC-24

Please see Master Response M, *Interim Operations*. Any pumping at 8,500 cfs, including Interim Operations, will not occur if EWA managers are requesting an export reduction action because of high fish salvage density. If EWA is not expanded, the avoidance and credit system would be used for mitigation of entrainment impacts for interim operations.

NRDC-25

Please see Master Response N, *Trinity River Operations*.

NRDC-26

Please see Master Response A, *Relationship between the South Delta Improvements Program and the Operations Criteria and Plan*.

NRDC-27

Water quality effects from the SDIP are thoroughly evaluated in Section 5.3 of the SDIP Draft EIS/EIR. Land retirement of drainage-impaired lands will proceed independently of the SDIP and may reduce the demands by some CVP and SWP contractors. This may increase the reliability of deliveries to remaining contractors but will not likely be sufficient to reduce the need for the increased diversion limits to increase the flexibility of pumping from the Delta. Compliance with the 30-day running average EC objectives at Vernalis and south-Delta EC objectives at Brandt Bridge, Old River at Tracy Boulevard, and Old River at Middle River (Union Island EC station) is discussed in Section 5.3. The SDIP will not increase the EC at Vernalis or Brandt Bridge and will reduce the EC at the two Old River stations.

NRDC-28

The SDIP cumulative impacts are adequately described in Chapter 10 of the SDIP Draft EIS/EIR. A full review of water management (i.e., diversions, irrigation projects, dams, and levees) throughout California cannot be provided with quantitative detail. The SDIP cumulative analysis focuses on other similar future projects. Because the CVP and SWP water management facilities are generally completed, and water supply is currently limiting Delta exports in more than 50% of the years (as described in Section 5.1), cumulative impacts from these additional future projects are limited, and considered to be less than significant. The broader the view of the cumulative water management effects

evaluated, the smaller the incremental adjustments in CVP and SWP operation that are allowed by the SDIP become.

NRDC-29

The SDIP Stage 2 evaluations and documentation will fully comply with CEQA and NEPA. The OCAP BO(s) and the SDIP ASIP, following the mandated ESA review process for CALFED projects, are included in the full and complete ESA and CESA compliance for the SDIP. Information presented in the Draft EIS/EIR is considered to be the best available information at the time it was drafted.

NRDC-30

CESA compliance for Stage 1 will be achieved through the current ASIP process. The process for CESA compliance for Stage 2 has not been started. Possible methods for achieving CESA compliance for Stage 2 may include another ASIP process, development of an NCCP, or a traditional incidental take authorization process.

Stage 2, the Operational stage of the SDIP, will need both CESA and ESA coverage. The appropriate BAs or equivalent document (such as an ASIP) will be prepared for the Stage 2 actions. Consultation will be sought with all three fishery regulatory agencies.

NRDC-31

Please see Master Response F, *Relationship between the South Delta Improvements Program and Climate Change Effects*.

NRDC-32

The indirect effects and benefits to the people of California who receive these water supplies have been analyzed to the extent possible in Chapter 9 of the SDIP Draft EIS/EIR.

NRDC-33

Please see Master Response I, *Reliability of CALSIM and DSM2 Models for Evaluation of the South Delta Improvements Program*.

NRDC-34

Please see Master Response E, *Reliance on Expanded Environmental Water Account Actions for Fish Entrainment Reduction*, and Master Response O, *Gate Operations Review Team*. Reclamation and DWR are committed to improving the adaptive management and effectiveness of the CVPIA b(2) water as well as the EWA water acquisition and fish protection actions. The SDIP will increase the flexibility of pumping operations and will add controllable tidal gates to the facilities that can be adaptively managed by these interagency teams for improved Delta water supplies, water quality, and habitat restoration and management.

NRDC-35

Please see Master Response N, *Trinity River Operations*.